

REMARKS

Introductory Comments

Reconsideration of the above-identified application in view of the above amendments and foregoing arguments is respectfully requested.

Claims 10-16, 33, 35, 38 and 39 are pending and under consideration. Claims 23-32 and 34 are withdrawn due to the restriction requirement. Claims 10, 11, 15, 33, 38 and 39 have been amended as discussed below. No new matter has been added as a result of these amendments.

Applicants thank the Examiner for withdrawing the rejection under 35 U.S.C. § 112, second paragraph.

Rejection of Claims 10-16, 33, 35, 38 and 39 Under 35 U.S.C. § 112, First Paragraph

Claims 10-16, 33, 35, 38 and 39 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one of skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

Specifically, the Examiner reiterates his position made in the previous Office Action, that the claims encompass a genus of nucleic acids which are different from those disclosed in the specification. The Examiner states that this is because there is a very large number of variants in the genus since the claims only require 50% identity to a nucleotide sequence. Applicants respectfully traverse the rejection. Applicants submit that the large number of variants in a claimed genus does not give rise to the conclusion that Applicants did not have possession of the claimed invention since the determination of percent identity is

known to one of ordinary skill in the art, as argued in Applicants' previous response. Those arguments are incorporated herein.

However, in an effort to expedite prosecution of the instant application, the claims have been amended to render the rejection moot. Specifically, Applicants have amended the claims to recite "90% identity" instead of "50% identity" to the claimed SEQ ID NOS. Support for this amendment can be found on page 14, lines 1-11 and page 24, lines 23-25. As noted by the Examiner on pages 11-12 of the Office Action, the USPTO Written Guidelines, in Example 14, indicates that a 95% identity limitation is considered acceptable in terms of identity. Also noted on page 12 of the Office Action, the scope of the genus can be determined by the functional requirement of "catalytic activity". Applicants have described in the specification that the polynucleotides of the instant claims contain open reading frames from which an immunogenic may be found from and encoded to the polypeptides of the instant claims (page 12, lines 10-18). Additionally, it is disclosed that the high percentage identity confers hybridization of the polynucleotides of the instant claims (page 24, lines 23-25). Therefore, Applicants submit that the specification discloses the "catalytic activity" as a functional requirement of the claimed polynucleotides.

Applicants submit, therefore, that the specification is adequately written under 35 U.S.C. § 112, first paragraph. For these reasons, Applicants respectfully request withdrawal of the rejection of claims 10-16, 33, 35, 38 and 39 under 35 U.S.C. § 112, first paragraph.

Rejection of Claims 10-16 and 33 Under 35 U.S.C. § 102(b)

Claims 10-16 and 33 are rejected under 35 U.S.C. § 102(b) as being anticipated by Gibco/BRL (1993/1994), p. 7-18 (herein "Gibco/BRL").

The Examiner provides four examples of sequences that are 16 nucleotides in length from the sequence designated PUC 19 (found in Genbank Accession No. M77789). It seems that the Examiner is inferring that these sequences are "fragments" and provides an alignment of these sequences to some of the instant sequences, SEQ ID NOS: 1-4, showing a percent identity of

more than 50% based on the length of the 16 nucleotides. The Examiner then states that since PUC 19 is a polynucleotide that is 2886 nucleotides in length, it is more than 10 nucleotides in length. Thus, the Examiner concludes that claims 10-16 and 33 are anticipated by Gibco/BRL. Applicants respectfully traverse the rejection.

The claims previously recited "at least one polynucleotide having at least 50% identity with a sequence selected from the group consisting of SEQUENCE ID NOS: 1-16, and fragments or complements thereof, wherein said fragments have a length of at least 10 nucleotide" (emphasis added). The claims do not recite "a portion of a polynucleotide having at least 50% identity to SEQ ID NOS: 1-16" as the Examiner is interpreting.

As the Examiner states, Gibco/BRL discloses a polynucleotide that is 2886 nucleotides in length (PUC 19). It is noted that Gibco/BRL discloses that this polynucleotide has multiple cloning sites. However, Gibco/BRL does not disclose any fragments that are separate from the PUC 19 polynucleotide that is 2886 nucleotides in length. Instead, the Examiner is referring to the portions of the sequence as a "fragment" which is improper.

In the first sequence example the Examiner extracted from Gibco/BRL, the Examiner states that "PUC is a polynucleotide that is 2886 nucleotides in length thereby being larger than 10 nucleotides, which polynucleotide comprises at least one fragment of 16 nucleotides that is 62.5% identical with SEQ ID NO: 1". It is inconsistent to state that a polynucleotide that is 2886 nucleotides in length is considered to meet Applicants' claim language of a "fragment" and then compare only 16 nucleotides of the 2886 nucleotides for percent identity. The Examiner has only shown 10 nucleotides alignment in his first example. Since Gibco/BRL does not disclose any fragments, the percent identity must be compared to the 2886 nucleotides from PUC 19 or to the 258 nucleotides from SEQ ID NO: 1, not the 16 nucleotides. Therefore, at best there is only 3.9% identity (10 divided by 258) with respect to the Examiner's first example. The three other examples which the Examiner provides from Gibco/BRL's PUC 19 polynucleotide do not meet the claim language in a similar manner.

However, in an effort to expedite prosecution of the instant application, the claims have been amended to delete the language with respect to fragments and its length. For these reasons, Applicants respectfully request withdrawal of the rejection of claims 10-16 and 33 under 35 U.S.C. § 102(b) as being anticipated by Gibco/BRL (1993/1994), p. 7-18.

Rejection of Claims 10-16, 33 and 35 Under 35 U.S.C. § 103(a)

Claims 10-16, 33 and 35 are rejected under 35 U.S.C. § 103(b) as being unpatentable over Guthrie *et al.*, U.S. Patent No. 5,262,318 (herein "Guthrie") in view of Stratagene catalog (1988), p. 39 (herein "Stratagene").

It appears that the Examiner meant the claims to be rejected over Gibco/BRL as previously applied, in view of Guthrie and Stratagene since the Examiner refers to the PUC19 polynucleotide, neither Guthrie nor Stratagene appear to disclose this designated polynucleotide, and the Examiner further states that PUC19 meets the nucleic acid requirement of the claimed invention since it comprises nucleic acids greater than 10 nucleotides which are at least 50% identical to SEQ ID NOS: 1-16. The Examiner applies Guthrie for teaching of cell transformation and Stratagene for teaching cloning. Applicants respectfully traverse the rejection.

As noted above Gibco/PRL does not disclose or suggest the claimed polynucleotides. Applicants' arguments above are incorporated herein. It is clear that Guthrie and Stratagene do not cure the deficiencies of Gibco/PRL. For these reasons, Applicants respectfully request withdrawal of the rejection of claims 10-16, 33 and 35 under 35 U.S.C. § 103(b) as being unpatentable over Guthrie *et al.*, U.S. Patent No. 5,262,318 in view of Stratagene catalog (1988), p. 39.

CONCLUSION

Applicants respectfully submit that the claims comply with the requirements of 35 U.S.C. Sections 112, 102 and 103. Accordingly, a Notice of Allowance is believed in order and is respectfully requested.

Should the Examiner have any questions concerning the above, he is respectfully requested to contact the undersigned at the telephone number listed below. If the Examiner notes any further matters which the Examiner believes may be expedited by a telephone interview, the Examiner is requested to contact the undersigned.

If any additional fees are incurred as a result of the filing of this paper, authorization is given to charge deposit account no. 23-0785.

Respectfully submitted,

Billing-Medel, *et al.*



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